

# Structure and Kinematics of Edge-on Galaxy Discs:

## I. Observations of the Stellar Kinematics

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### ABSTRACT

We present deep optical long-slit spectra of 17 edge-on spiral galaxies of intermediate to late morphological type, mostly parallel to their major axes and in a few cases parallel to the minor axes. The line-of-sight stellar kinematics are obtained from the stellar absorption lines using the improved cross-correlation technique. In general, the stellar kinematics are regular and can be traced well into the disc-dominated region. The mean stellar velocity curves are far from solid-body, indicating that the effect of dust extinction is not large. The line-of-sight stellar disc velocity dispersion correlates with the galaxy maximum rotational velocity, but detailed modeling is necessary to establish whether this represents a physical relation. In four spirals with a boxy- or peanut-shaped bulge we are able to detect asymmetric velocity distributions, having a common signature with projected radius in the mean line-of-sight velocity and the  $h_3$  and  $h_4$  curves. In two cases this kinematic asymmetry probably represents the ‘figure-of-eight’ pattern synonymous of a barred potential. We emphasize, however, that the signatures seen in the  $h_3$  and  $h_4$  curves may also be due to the disc seen in projection.

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<http://www.astro.rug.nl/~vdkruit/jea3/homepage/paperI.pdf>

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